

REMARKS

The Office action of April 20, 2004, has been carefully considered.

Objection has been raised to the disclosure on the basis that a reference to the PCT application is necessary, and the specification has now been amended to add this reference. In addition, the specification has been amended to utilize standard subject matter headings for U.S. practice.

Claims 1 through 10 have been rejected under 35 USC 112, second paragraph, as being indefinite on a number of grounds. Claims 1 through 10 have now been cancelled and replaced by a new set of Claims 11 through 32 which are written in proper form for U.S. practice.

Moreover, with regard to Claim 9, the subject matter of which is now found in Claims 31 and 32, it is noted that Claim 31 is directed to any one of the three compounds recited.

Withdrawal of this rejection is requested.

Claims 9 and 10 have been rejected under 35 USC 102(e) as anticipated by Sieving et al.

Claims 31 and 32 are directed to three compounds according to the invention, with Claim 32 directed to one of the compounds, the compound of formula I'.2.

The claimed compounds are described in Examples 1 through 3 of the specification, and are based upon DTPA.

Sieving et al is directed to polychelants based upon a backbone to which a plurality of macrocyclic chelant moieties are conjugated through a donor atom. DOTA is specifically mentioned as a chelant moiety, but it is believed that DTPA may also be an acceptable chelant.

However, Sieving et al does not disclose or suggest utilizing the compound recited in Claims 31 and 32, which do not include a plurality of DTPA type moieties attached to a single backbone.

Withdrawal of this rejection is requested.

Claims 1 through 3 and 5 through 8 have been rejected under 35 USC 103(a) as obvious over Smith et al in view of Green.

The Smith et al reference is directed to a process for recovering of metal ions from aqueous streams utilizing water-soluble polymers and ultrafiltration. The polymers useful for the invention are set forth at column 10, lines 41 et seq, and these are not the ligand compounds of the claimed invention. Moreover, nanofiltration is not utilized.

The Green reference has been cited for its disclosure of nanofiltration in connection with separating metals from solution. While it is mentioned that lanthanides and actinides may be separated using nanofiltration, there is also no disclosure or suggestion of utilizing the claimed ligands as complexing agents. The permeate of Green needs another purification step to remove residual metal ions and one or more columns containing metal ion extracting materials are used.

Thus, the references taken in combination do not disclose or suggest utilizing the claimed ligands to form complexes with actinides and lanthanides, and utilizing nano-filtration to separate the complexed lanthanides and actinides into a retentate enriched in a specific species.

Withdrawal of this rejection is accordingly requested.

Claim 4 has been rejected under 35 USC 103 over Smith et al in view of Green and further in view of Sieving et al.

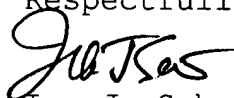
As noted above, the Sieving et al reference does not cure the defects of Smith et al and Green, because Sieving et al does not disclose or suggest the ligands of the claimed invention, being directed instead to polymers having a plurality of chelant moieties.

Withdrawal of this rejection is requested.

Finally, Applicants submit herewith a new inventors' declaration which correctly references the PCT application upon which this application is based.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



Ira J. Schultz

Registration No. 28666